

# Anand Kumar

## List of Publications by Year in descending order

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98  
papers

3,531  
citations

94269

37  
h-index

155451

55  
g-index

98  
all docs

98  
docs citations

98  
times ranked

2896  
citing authors

#	ARTICLE	IF	CITATIONS
1	Heavy metal ions removal from industrial wastewater using magnetic nanoparticles (MNP). Applied Surface Science, 2020, 506, 144924.	3.1	179
2	A decade of ceria based solar thermochemical H <sub>2</sub> O/CO <sub>2</sub> splitting cycle. International Journal of Hydrogen Energy, 2019, 44, 34-60.	3.8	126
3	A comprehensive and critical review on recent progress in anode catalyst for methanol oxidation reaction. Catalysis Reviews - Science and Engineering, 2022, 64, 126-228.	5.7	125
4	Combustion synthesis of bifunctional LaMO <sub>3</sub> (M = Cr, Mn, Fe, Co, Ni) perovskites for oxygen reduction and oxygen evolution reaction in alkaline media. Journal of Electroanalytical Chemistry, 2018, 809, 22-30.	1.9	120
5	Thermodynamic analysis of solar driven SnO <sub>2</sub> /SnO based thermochemical water splitting cycle. Energy Conversion and Management, 2017, 135, 226-235.	4.4	110
6	Solution combustion synthesis of metal nanopowders: Nickel Reaction pathways. AIChE Journal, 2011, 57, 2207-2214.	1.8	109
7	Solution combustion synthesis of metal nanopowders: Copper and copper/nickel alloys. AIChE Journal, 2011, 57, 3473-3479.	1.8	80
8	Electrochemical oxidation of ammonia on nickel oxide nanoparticles. International Journal of Hydrogen Energy, 2020, 45, 10398-10408.	3.8	79
9	A review of recent advances in water-gas shift catalysis for hydrogen production. Emergent Materials, 2020, 3, 881-917.	3.2	78
10	Solar hydrogen production via thermochemical iron oxide-iron sulfate water splitting cycle. International Journal of Hydrogen Energy, 2015, 40, 1639-1650.	3.8	77
11	Removal of emerging pharmaceuticals from wastewater by ozone-based advanced oxidation processes. Environmental Progress and Sustainable Energy, 2016, 35, 982-995.	1.3	77
12	Recent advances in cobalt based heterogeneous catalysts for oxygen evolution reaction. Inorganica Chimica Acta, 2020, 511, 119854.	1.2	74
13	Solar thermochemical ZnO/ZnSO <sub>4</sub> water splitting cycle for hydrogen production. International Journal of Hydrogen Energy, 2017, 42, 23474-23483.	3.8	67
14	Combustion synthesis of Ni, Fe and Cu multi-component catalysts for hydrogen production from ethanol reforming. Applied Catalysis A: General, 2011, 401, 20-28.	2.2	66
15	Highly efficient nonenzymatic glucose sensors based on CuO nanoparticles. Applied Surface Science, 2019, 481, 712-722.	3.1	65
16	Solar Hydrogen Production via a Samarium Oxide-Based Thermochemical Water Splitting Cycle. Energies, 2016, 9, 316.	1.6	63
17	Combustion synthesis of copper-nickel catalysts for hydrogen production from ethanol. Chemical Engineering Journal, 2015, 278, 46-54.	6.6	62
18	Cellulose assisted combustion synthesis of porous Cu-Ni nanopowders. RSC Advances, 2015, 5, 28703-28712.	1.7	59

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19	Transition metal doped ceria for solar thermochemical fuel production. <i>Solar Energy</i> , 2018, 172, 204-211.	2.9	59
20	Synthesis and growth mechanism of bamboo like N-doped CNT/Graphene nanostructure incorporated with hybrid metal nanoparticles for overall water splitting. <i>Carbon</i> , 2020, 170, 452-463.	5.4	59
21	Impregnated layer combustion synthesis method for preparation of multicomponent catalysts for the production of hydrogen from oxidative reforming of methanol. <i>Applied Catalysis A: General</i> , 2010, 372, 175-183.	2.2	58
22	Assessment of Ce Zr Hf O <sub>2</sub> based oxides as potential solar thermochemical CO <sub>2</sub> splitting materials. <i>Ceramics International</i> , 2016, 42, 9354-9362.	2.3	57
23	A comparative thermodynamic analysis of samarium and erbium oxide based solar thermochemical water splitting cycles. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 23416-23426.	3.8	56
24	In situ DRIFTS Studies on Cu, Ni and CuNi catalysts for Ethanol Decomposition Reaction. <i>Catalysis Letters</i> , 2016, 146, 778-787.	1.4	54
25	Synthesis of Highly Efficient Bifunctional Ag/Co <sub>3</sub> O <sub>4</sub> Catalyst for Oxygen Reduction and Oxygen Evolution Reactions in Alkaline Medium. <i>ACS Omega</i> , 2018, 3, 7745-7756.	1.6	53
26	Catalytic evaluation of nickel nanoparticles in methane steam reforming. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 22876-22885.	3.8	52
27	Combustion Synthesis of a Nickel Supported Catalyst: Effect of Metal Distribution on the Activity during Ethanol Decomposition. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 12004-12008.	1.8	51
28	Study of ethanol dehydrogenation reaction mechanism for hydrogen production on combustion synthesized cobalt catalyst. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 23464-23473.	3.8	49
29	Solar hydrogen production via erbium oxide based thermochemical water splitting cycle. <i>Journal of Renewable and Sustainable Energy</i> , 2016, 8, .	0.8	47
30	Effectiveness of Ni incorporation in iron oxide crystal structure towards thermochemical CO <sub>2</sub> splitting reaction. <i>Ceramics International</i> , 2017, 43, 5150-5155.	2.3	47
31	Solar Thermochemical Hydrogen Production via Terbium Oxide Based Redox Reactions. <i>International Journal of Photoenergy</i> , 2016, 2016, 1-9.	1.4	46
32	Highly active and stable bi-functional NiCo <sub>2</sub> catalyst for oxygen reduction and oxygen evolution reactions in alkaline medium. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 16603-16614.	3.8	45
33	Photocatalytic conversion of CO <sub>2</sub> and H <sub>2</sub> O to useful fuels by nanostructured composite catalysis. <i>Applied Surface Science</i> , 2019, 483, 363-372.	3.1	45
34	Cobalt oxide nanopowder synthesis using cellulose assisted combustion technique. <i>Ceramics International</i> , 2016, 42, 12771-12777.	2.3	43
35	In situ XAS and FTIR studies of a multi-component Ni/Fe/Cu catalyst for hydrogen production from ethanol. <i>Applied Catalysis A: General</i> , 2013, 467, 593-603.	2.2	42
36	Sol-gel derived CeO <sub>2</sub> -Fe <sub>2</sub> O <sub>3</sub> nanoparticles: Synthesis, characterization and solar thermochemical application. <i>Ceramics International</i> , 2016, 42, 6728-6737.	2.3	42

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37	Catalytic Methane Decomposition to Carbon Nanostructures and CO <sub>x</sub> -Free Hydrogen: A Mini-Review. <i>Nanomaterials</i> , 2021, 11, 1226.	1.9	41
38	Development of Co/Co <sub>9</sub> S <sub>8</sub> metallic nanowire anchored on N-doped CNTs through the pyrolysis of melamine for overall water splitting. <i>Electrochimica Acta</i> , 2021, 368, 137642.	2.6	40
39	Propylene oxide assisted sol-gel synthesis of zinc ferrite nanoparticles for solar fuel production. <i>Ceramics International</i> , 2016, 42, 2431-2438.	2.3	37
40	Potential use of solar photocatalytic oxidation in removing emerging pharmaceuticals from wastewater: A pilot plant study. <i>Solar Energy</i> , 2018, 172, 128-140.	2.9	37
41	Hydrogen production by ethanol decomposition and partial oxidation over copper/copper-chromite based catalysts prepared by combustion synthesis. <i>Catalysis Today</i> , 2013, 203, 163-175.	2.2	36
42	Single Step Synthesis of Porous NiCoO <sub>2</sub> for Effective Electrooxidation of Glycerol in Alkaline Medium. <i>Journal of the Electrochemical Society</i> , 2018, 165, J3301-J3309.	1.3	36
43	CO <sub>2</sub> Capture Using Aqueous Potassium Carbonate Promoted by Ethylaminoethanol: A Kinetic Study. <i>Industrial &amp; Engineering Chemistry Research</i> , 2016, 55, 5238-5246.	1.8	32
44	Solar co-production of samarium and syngas via methanothermal reduction of samarium sesquioxide. <i>Energy Conversion and Management</i> , 2016, 112, 413-422.	4.4	32
45	Influence of fuel ratio on the performance of combustion synthesized bifunctional cobalt oxide catalysts for fuel cell application. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 436-445.	3.8	32
46	An active and stable NiOMgO solid solution based catalysts prepared by paper assisted combustion synthesis for the dry reforming of methane. <i>Applied Catalysis B: Environmental</i> , 2020, 273, 119056.	10.8	32
47	Effect of Ni incorporation in cobalt oxide lattice on carbon formation during ethanol decomposition reaction. <i>Applied Catalysis B: Environmental</i> , 2019, 254, 300-311.	10.8	30
48	Development of CuAg/Cu <sub>2</sub> O nanoparticles on carbon nitride surface for methanol oxidation and selective conversion of carbon dioxide into formate. <i>Journal of Colloid and Interface Science</i> , 2020, 578, 726-737.	5.0	30
49	A review of g-C <sub>3</sub> N <sub>4</sub> based catalysts for direct methanol fuel cells. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 3371-3395.	3.8	30
50	Preparation of Mesoporous/Microporous MnCo <sub>2</sub> O <sub>4</sub> and Nanocubic MnCr <sub>2</sub> O <sub>4</sub> Using a Single Step Solution Combustion Synthesis for Bifunction Oxygen Electrocatalysis. <i>Journal of the Electrochemical Society</i> , 2020, 167, 054507.	1.3	28
51	Ag/Co <sub>3</sub> O <sub>4</sub> as an effective catalyst for glycerol electro-oxidation in alkaline medium. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 4788-4797.	3.8	27
52	Modeling Impregnated Layer Combustion Synthesis of Catalysts for Hydrogen Generation from Oxidative Reforming of Methanol. <i>Industrial &amp; Engineering Chemistry Research</i> , 2010, 49, 11001-11008.	1.8	26
53	Probing the effect of combustion controlled surface alloying in silver and copper towards ORR and OER in alkaline medium. <i>Journal of Electroanalytical Chemistry</i> , 2019, 844, 66-77.	1.9	25
54	Thermodynamic investigation of hydrogen enrichment and carbon suppression using chemical additives in ethanol dry reforming. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 15149-15157.	3.8	23

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55	PdZn nanoparticle electrocatalysts synthesized by solution combustion for methanol oxidation reaction in an alkaline medium. RSC Advances, 2017, 7, 42709-42717.	1.7	22
56	Surface Alloying in Silver-Cobalt through a Second Wave Solution Combustion Synthesis Technique. Nanomaterials, 2018, 8, 604.	1.9	22
57	Nanosheet Synthesis of Mixed Co <sub>3</sub> O <sub>4</sub> /CuO via Combustion Method for Methanol Oxidation and Carbon Dioxide Reduction. Langmuir, 2020, 36, 12760-12771.	1.6	21
58	Sol-Gel Synthesis of Nanocrystalline Ni-Ferrite and Co-Ferrite Redox Materials for Thermochemical Production of Solar Fuels. Materials Research Society Symposia Proceedings, 2014, 1675, 203-208.	0.1	20
59	La-Based Perovskites as Oxygen-Exchange Redox Materials for Solar Syngas Production. MRS Advances, 2017, 2, 3365-3370.	0.5	20
60	Enhancing the electrocatalytic properties of LaMnO <sub>3</sub> by tuning surface oxygen deficiency through salt assisted combustion synthesis. Catalysis Today, 2021, 375, 484-493.	2.2	19
61	Ethanol Decomposition and Dehydrogenation for Hydrogen Production: A Review of Heterogeneous Catalysts. Industrial & Engineering Chemistry Research, 2021, 60, 16561-16576.	1.8	17
62	Preparation of Nanoparticles via Cellulose-Assisted Combustion Synthesis. International Journal of Self-Propagating High-Temperature Synthesis, 2018, 27, 141-153.	0.2	16
63	Current Trends in Cellulose Assisted Combustion Synthesis of Catalytically Active Nanoparticles. Industrial & Engineering Chemistry Research, 2019, 58, 7681-7689.	1.8	16
64	Highly efficient methanol oxidation reaction on durable Co <sub>9</sub> S <sub>8</sub> @N, S-doped CNT catalyst for methanol fuel cell applications. International Journal of Hydrogen Energy, 2022, 47, 3346-3357.	3.8	16
65	Review of photocatalytic and photo-electrocatalytic reduction of CO <sub>2</sub> on carbon supported films. International Journal of Hydrogen Energy, 2022, 47, 30908-30936.	3.8	16
66	Mineralization of dichloromethane using solar-oxidation and activated TiO <sub>2</sub> : Pilot scale study. Solar Energy, 2018, 172, 116-127.	2.9	15
67	Removal of volatile sulfur compounds by solar advanced oxidation technologies and bioprocesses. Solar Energy, 2016, 135, 348-358.	2.9	14
68	Kinetics of CO <sub>2</sub> Adsorption/Desorption of Polyethyleneimine@Mesoporous Silica. Chemical Engineering and Technology, 2017, 40, 1802-1809.	0.9	14
69	Synthesis of hydroxide nanoparticles of Co/Cu on carbon nitride surface via galvanic exchange method for electrocatalytic CO <sub>2</sub> reduction into formate. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2020, 598, 124835.	2.3	14
70	Combustion synthesis of copper ceria solid solution for CO <sub>2</sub> conversion to CO via reverse water gas shift reaction. International Journal of Hydrogen Energy, 2022, 47, 41259-41267.	3.8	13
71	Advanced wastewater treatment using microalgae: effect of temperature on removal of nutrients and organic carbon. IOP Conference Series: Earth and Environmental Science, 2017, 67, 012032.	0.2	12
72	Effect of fuel content on the electrocatalytic methanol oxidation performance of Pt/ZnO nanoparticles synthesized by solution combustion. Applied Surface Science, 2019, 492, 73-81.	3.1	12

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73	Galvanic Exchange as a Novel Method for Carbon Nitride Supported CoAg Catalyst Synthesis for Oxygen Reduction and Carbon Dioxide Conversion. <i>Catalysts</i> , 2019, 9, 860.	1.6	12
74	Combustion synthesis: a novel method of catalyst preparation. <i>Catalysis</i> , 2019, , 297-346.	0.6	11
75	Electrocatalytic conversion of CO <sub>2</sub> over in-situ grown Cu microstructures on Cu and Zn foils. <i>Journal of CO<sub>2</sub> Utilization</i> , 2021, 53, 101749.	3.3	11
76	Design of Ni/La <sub>2</sub> O <sub>3</sub> catalysts for dry reforming of methane: Understanding the impact of synthesis methods. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 41294-41309.	3.8	11
77	Zn-enriched PtZn nanoparticle electrocatalysts synthesized by solution combustion for ethanol oxidation reaction in an alkaline medium. <i>MRS Communications</i> , 2018, 8, 411-419.	0.8	10
78	Thermodynamic evaluation of hydrazine assisted glycerol reforming for syngas production and coke inhibition. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 12999-13008.	3.8	10
79	Thermochemical splitting of CO <sub>2</sub> using solution combustion synthesized LaMO <sub>3</sub> (where, M=Co, Fe, Mn,) <i>Tj ETQq1 1 0.784314 rgB</i>	3.1	10
80	Low Temperature Activation of Carbon Dioxide by Ammonia in Methane Dry Reforming—A Thermodynamic Study. <i>Catalysts</i> , 2018, 8, 481.	1.6	8
81	Effect of nickel on combustion synthesized copper/ fumed SiO <sub>2</sub> catalyst for selective reduction of CO <sub>2</sub> to CO. <i>International Journal of Energy Research</i> , 2022, 46, 441-451.	2.2	8
82	Solution combustion synthesis of Ni/La <sub>2</sub> O <sub>3</sub> for dry reforming of methane: tuning the basicity via alkali and alkaline earth metal oxide promoters. <i>RSC Advances</i> , 2021, 11, 33734-33743.	1.7	8
83	Synthesis of fumed silica supported Ni catalyst for carbon dioxide conversion to methane. , 2020, 10, 715-724.		7
84	Solar thermochemical Dy <sub>2</sub> O <sub>3</sub> /DyO water splitting cycle for hydrogen production. <i>International Journal of Exergy</i> , 2017, 22, 54.	0.2	6
85	Thermodynamic assessment of effect of ammonia, hydrazine and urea on water gas shift reaction. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 3237-3247.	3.8	4
86	A thermodynamic study of propanol reforming in presence of hydrazine for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 4716-4723.	3.8	4
87	Thermochemical Conversion of CO <sub>2</sub> into Solar Fuels Using Ferrite Nanomaterials. , 2015, , 141-148.		3
88	Thermodynamic exergy analysis of dysprosium oxide-based solar thermochemical water-splitting cycle. <i>International Journal of Exergy</i> , 2017, 23, 226.	0.2	3
89	Kinetics of reactive absorption of CO <sub>2</sub> using aqueous blend of potassium carbonate, ethylaminoethanol, and N-methyl-2-Pyrrolidone (APCEN solvent). <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2018, 89, 191-197.	2.7	3
90	Single step synthesis of transition metal nanoparticles in aqueous phase for catalytic applications. , 2015, , 69-80.		2

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91	Solar Fuel Production via Non-Stoichiometric $Ce_xZr_yHf_zO_{2-\delta}$ Based Two-Step Thermochemical Redox Cycle. , 2015, , 117-124.		1
92	Thermodynamic Analysis of Solar Fuel Production via Thermochemical H <sub>2</sub> O and/or CO <sub>2</sub> Splitting Using Tin Oxide Based Redox Reactions. , 2015, , 39-48.		1
93	Catalytic Reduction of CO <sub>2</sub> into Solar Fuels via Ferrite Based Thermochemical Redox Reactions. MRS Advances, 2017, 2, 3389-3395.	0.5	1
94	Catalytic evaluation of Ni-based nano-catalysts in dry reformation of methane. , 2017, , .		1
95	Solar Energy Storage via Thermochemical Metal Oxide/Metal Sulfate Water Splitting Cycle. MRS Advances, 2018, 3, 1341-1346.	0.5	1
96	Electrocatalytic Oxidation of Methanol Over Silver-Based Ag-M/C (M = Cu, Zn, Fe, Cr, Mn) Electrocatalysts Synthesized by Solution Combustion Technique. Journal of the Electrochemical Society, 2022, 169, 054510.	1.3	1
97	Modeling of Reaction Front Movement in Combustion Synthesis for Catalyst Preparation. , 2015, , 391-399.		0
98	Methanol Electro-Oxidation over Combustion Synthesized Silver Based Electrocatalysts. ECS Meeting Abstracts, 2022, MA2022-01, 2386-2386.	0.0	0